Cahlen Brancheau   HW5

1)

$a = b + 100;$

add $t0, $t1, 100 ✓

2)

$g = h + A[14];$

← 14×4

LW $t2, 56($s1)
Add $t0, $t1, $t2 ✓
sw

3)

$A[275] = g + A[275];$

LW $t1, 1100($s1)
Add $t1, $t0, $t1
sw $t1, 1100($s1) ✓

4)

$g = h + A[i];$

t0 t1 s1 s2

Add $t2, $s2, $s2   # t2 ← 2i
Add $t2, $s2, $s2   # t2 ← 4i
Add $t2, $s1, $s2   # t2 ← A[4i] (address)
LW $t3, 0($t2)   # t3 ← A[i]
Add $t0, $t1, $t3   # g ← h + A[i] ✓

5)

$X[10] = X[11] + c;$
$\quad\quad\quad\quad\quad t0$

$X = 4,000,000_{10} = 0x3D0900_{16}$

lui $t1, 0x0h3D   # t1 [003D] [0000]
ori $t1, $t1, 0x0900 # t1 [0030] [0900]
Lw $t2, 44($t1)
Add $t2, $t2, $t0
Sw $t2, 40($t1) ✓

6)

a) $B[350] = g + B[350]$ 350 × 4 = 1400
      $\quad\quad\quad\quad S1\quad S2$

Lw $t0, 1400($s2)
Add $t0, $s1, $t0
Sw $t0, 1400($s2) ✓

b)

35	9	8	1400		
0	18	8	8	0	32
43	9	8	1400		

c)

35₇   9   8   1400
100011 01001 01000 0000 0101 0111 1000

0000 0010 0100 1000 0100 0000 0010 0000

1010 1101 0010 1000 0000 0101 0111 1000 ✓

d)

8D280578
0 2 4 8 4020
4D 28 0578 ✓